



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES

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Section 18 Review

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SUBJECT: Myclobutanil (Laredo® 2EC Fungicide) on Sugar Beets in Utah
Rohm and Haas Company

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Summary of Conclusions

EFED/ERB III has reviewed the emergency exemption request for the use of myclobutanil on sugar beets in Utah and concludes that this use should not pose significant adverse effects to birds, fish, small mammals, and aquatic invertebrates, including endangered species. Risks to terrestrial plants and non-target insects could not be assessed due to lack of adequate data; therefore, the possibility of risks to species in these groups cannot be ruled out. Such potential risks could be minimized by reducing spray drift. The water resources assessment completed on January 13, 1998 for hops, the crop that has the highest annual application rate of uses considered so far, serves as the basis for Estimated Environmental Concentrations (EECs) of Myclobutanil.

Background

The State of Utah Department of Agriculture and Food has requested an emergency exemption for the use of Laredo® 2EC fungicide (EPA registration #707-222) to control powdery mildew on a maximum of 300 acres of sugar beets for sugar and 250 acres of sugar beets for seed in that state. The active ingredient of this fungicide is myclobutanil 25% (2 lbs ai/gallon). The period of time for which this use is requested is April 1, 2001 to September 15, 2001. Myclobutanil can be applied either by ground or by aerial equipment at a proposed rate of 0.125 lb ai/acre/application, with a maximum of 2 post-emergent applications per season and an interval of 10-14 days between applications. Although the emergency exemption request is for a maximum of 8 post-emergent applications annually, this emergency exemption is only being granted for a maximum of 2 annual applications. This corresponds to no more than 272 gallons, or 544 pounds active ingredient per acre of Laredo® 2EC Fungicide being applied in Utah. No



2014031

Myclobutanil may be applied within 14 days of harvest.

Environmental Fate Summary

Myclobutanil is persistent in water and moderately persistent in soil. Previously submitted fate studies indicate that myclobutanil is stable to hydrolysis and to photolysis in water. However, it will photodegrade slowly in soil ($t_{1/2} = 143$ days). The aerobic metabolism half-life values were reported at 61 to 71 days, and the terrestrial field dissipation at 92 to 292 days.

Myclobutanil has low to medium mobility in soils as indicated by its K_{oc} values (from 224 for clay loam to 919 for silty clay) and McCall classification. 1,2,4-Triazole, a major degradate of myclobutanil, possesses lower K_{oc} values than the parent, thus suggesting higher mobility. However, a review of the adsorption (average K_{ads} of 0.651) and desorption coefficients (average K_{des} of 1.15) indicates that this degradate may be irreversibly bound to soils and may not be as mobile as one would predict from the adsorption results alone.

Water Resources Assessment Summary

Tier I surface and ground water estimated environmental concentrations (EEC) were generated using the GENEEC (Generic Expected Environmental Concentration) and SCI-GROW (Screening Concentration in Ground Water) models, respectively. Since hops have the highest use rate among all existing uses (i.e., 15 applications per year and 0.65 lb ai/A per application at 14 day interval), the application rate and frequency information used as input values to these models was based on hops. A drinking water assessment for hops was issued by Dr. James Lin on January 13, 1998 (DP Barcodes: D238936, D238937, D238939, and D238940). Since the rates of application proposed for sugar beets by the State of Utah Department of Agriculture and Food are considerably lower than those for hops (i.e., 0.125 lb ai per acre per application, with a maximum of 8 post-emergence applications per year at 10-14 day intervals), it is not expected that the proposed use of myclobutanil on sugar beets will result in surface and ground water EECs exceeding the values reported for hops (see below).

GENEEC Peak	115 ppb
GENEEC Average 56 day	92 ppb
SCI-GROW Concentrations	2 ppb

No drinking water assessment was performed on 1,2,4-triazole due to an incomplete environmental fate database for this degradate. However, the available fate data indicate that 1,2,4-triazole may not enter surface and ground water resources at any appreciable level.

Ecological Risk Assessment Summary

The estimated ecological risks associated with the proposed use on sugar beets are based on myclobutanil use on asparagus which is applied at the same application rate and interval as sugar beets, but with a higher annual frequency of application. According to the "Review of New Uses for Myclobutanil" report (MWaller/TNguyen, February 07, 2000 (D260065 /D260111)),

myclobutanil is applied on asparagus at a rate of 0.125 lb ai/acre, 6 applications per year, with 14 days between applications. The asparagus use, which has the same application rate and frequency as sugar beets, did not trigger any LOC exceedance for birds, fish, small mammals, or aquatic invertebrates. Thus, it is reasonable to assume that minimal risks are expected from the proposed use of myclobutanil on sugar beets in Box Elder, Weber, and Davis Counties in Utah.